

This listing of the claims replaces all prior versions in the application.

Listing of Claims:

1. (Currently Amended) A magnetic resonance imaging (MRI) guidewire, comprising:
an inner conductor extending at least a major length of the guidewire;
an outer conductor coaxially disposed about the inner conductor extending at least a major length of the guidewire;
a distal end sized and shaped for insertion into a subject to receive MRI signals; and
a proximal end sized and shaped for insertion into a connector, the connector having a non-magnetic body, the proximal end of the guidewire having:
an outer conductor contact coupled electrically to the outer conductor; and
an extended section of the inner conductor that extends axially beyond the outer conductor contact, the extended section including:
an inner conductor contact having an electrically conductive material disposed at least partially around the inner conductor; and
an insulated area interposed between the outer ~~conductor~~ conductive contact and the inner ~~conductor~~ conductive contact, and having an electrically insulating material disposed at least partially around the inner conductor;
wherein the distal end of the guidewire defines an antenna configured to detect MRI signals and the inner and outer conductors are configured to conduct the detected MRI signals to the proximal end of the guidewire.

2. (Original) The guidewire of claim 1, wherein the guidewire diameter is sized for insertion into the lumen of an anatomic structure of a subject.

3. (Currently Amended) The guidewire of claim [[2]] 1, wherein the guidewire is sized and configured for insertion into ~~anatomic structure~~ is a blood vessel.

4. (Currently Amended) The guidewire of claim 2, wherein the guidewire is sized and configured for insertion into a human subject-is-a-human.

5. (Original) The guidewire of claim 1, wherein the guidewire diameter is less than about 0.040 inches.

6. (Original) The guidewire of claim 5, wherein the diameter is between about 0.012 inches and 0.038 inches.

7. (Original) The guidewire of claim 6, wherein the diameter is about 0.014 inches.

8. (Original) The guidewire of claim 1, wherein a diameter of the inner conductor is between about 0.004 inches and about 0.012 inches.

9. (Original) The guidewire of claim 1, wherein the guidewire has a stiffness sufficient for insertion into a lumen of an anatomic structure of a subject.

10. (Original) The guidewire of claim 1, wherein the guidewire is biocompatible.

11. (Original) The guidewire of claim 1, wherein the guidewire comprises a conductive material.

12. (Original) The guidewire of claim 1, wherein the guidewire is composed of nonmagnetic materials.

13. (Original) The guidewire of claim 1, wherein the guidewire comprises a superelastic material.

14. (Original) The guidewire of claim 13, wherein the superelastic material comprises titanium.

15. (Original) The guidewire of claim 13, wherein the superelastic material comprises Nitinol.

16. (Original) The guidewire of claim 1, wherein the guidewire is sterilizable.

17. (Original) The guidewire of claim 1, wherein the outer conductor contact and the inner conductor contact are each annular in shape.

18. (Original) The guidewire of claim 17, wherein the outer conductor contact and the inner conductor contact have approximately equal diameters.

19. (Original) The guidewire of claim 17, wherein the inner conductor contact is disposed radially about a portion of the extended section of the inner conductor.

20. (Original) The guidewire of claim 1, wherein the insulated area is annular in shape.

21. (Original) The guidewire of claim 1, wherein the outer conductor contact is axially distal to the inner conductor contact.

22. (Original) The guidewire of claim 1, further comprising an extension attachment coupled to the proximal end of the guidewire.

23. (Currently Amended) The guidewire of claim 1, wherein the guidewire is releasably engageable to different connectors, and wherein the guidewire, connector or

guidewire and connector comprises further comprising an identification parameter that is at least one of the following: an electrical circuit, a mechanical configuration, optical or visual indicia, whereby the identification parameter allows assembly only for a suitable connector and guidewire combination.

24. (Original) The guidewire of claim 23, wherein the identification parameter comprises at least one of a resistor value, a digital signature, or a unique serial number.

25. (Currently Amended) An MRI compatible medical coaxial cable, comprising:
an inner conductor extending at least a major length of the coaxial cable;
an outer conductor coaxially disposed about the inner conductor and extending at least a major length of the coaxial cable; and
a proximal end of the coaxial cable sized and shaped for insertion into a connector, the connector having a non-magnetic body, the proximal end of the coaxial cable having:
an outer conductor contact coupled electrically to the outer conductor; and
an extended section of the inner conductor that extends axially beyond the outer conductor contact, the extended section including:
an inner conductor contact having an electrically conductive material disposed at least partially around the inner conductor; and
an insulated area positioned to isolate electrically the outer conductive contact from the inner conductive contact, and having an electrically insulating material disposed at least partially around the inner conductor,
wherein the coaxial cable is configured to conduct MRI signals from a distal end portion to the proximal end.

26. (Previously Presented) The guidewire of claim 1, wherein the inner conductor is a center conductor.

27. (Currently Amended) The guidewire of claim 1, wherein the connector is in communication with an MRI interface circuit or includes an MRI interface circuit and is sized and configured to receive the proximal end of the guidewire and is configured to attach to an MRI scanner and allow transmission of the received MRI signals thereto.

28. (Currently Amended) The guidewire of claim 1, wherein the connector is releasably attachable to the outer and inner conductors whereby different medical devices can be serially removed from and attached to the guidewire[[],].

29. (Currently Amended) The guidewire of claim 1, in combination with an MRI scanner, the connector in electrical communication with the MRI scanner, wherein the connector comprises electrical shielding configured to inhibit RF interference when the guidewire is in operative use with the in an MRI scanner.

30. (Previously Presented) The guidewire of claim 23, wherein the identification parameter is configured to identify that a proper connector and guidewire combination is used.

31. (Currently Amended) The guidewire of claim 1, wherein the connector comprises an MRI scanner interface circuit, and wherein at least one of the guidewire and/or connector comprises a connection detector that identifies when the guidewire is disconnected from the interface circuit.

32. (Currently Amended) The guidewire of claim 1 23, wherein the connector or guidewire or connector and guidewire include a identification parameter that is at least one of the following: an electrical circuit, a mechanical configuration, optical or visual indicia, whereby the identification parameter allows assembly only for a suitable connector and

guidewire combination, wherein the identification parameter is unique to a specific guidewire to ~~thereby and is used to~~ limit a respective guidewire to a single-use.

33. (Previously Presented) The coaxial cable of claim 25, wherein the inner conductor is a center conductor.

34. (Currently Amended) The coaxial cable of claim 25, wherein the connector is sized and configured to receive the proximal end of the coaxial cable and is in communication with an MRI interface circuit and is configured to attach to an MRI scanner and allow transmission of the received MRI signals from a distal end portion of the coaxial cable to the MRI scanner.

35. (Currently Amended) The coaxial cable of claim 25, wherein the connector comprises electrical non-magnetic conductive shielding configured to inhibit RF interference when the guidewire is in operative use in an MRI scanner, and wherein the coaxial cable is configured to be inserted into a patient.

36. (Currently Amended) The coaxial cable of claim 25, wherein the connector comprises an MRI scanner interface circuit, and wherein at least one of the coaxial cable and/or connector comprises a connection detector that identifies when the cable is disconnected from the interface circuit.

37. (Currently Amended) The coaxial cable of claim 25, wherein the coaxial cable comprises a mechanical, electrical, visual or optical an identification parameter to thereby control assembly to a suitable connector or inhibit re-use of the coaxial cable.

38. (Currently Amended) The coaxial cable of claim ~~37~~ 25, wherein the coaxial cable is a single-use disposable medical device, and wherein the identification parameter is unique to a specific cable guidewire and is used to limit a respective cable to ~~[[a]]~~ the single-use.

39. (New) The guidewire of Claim 1, wherein the non-magnetic body of the connector comprises a conductive material to shield against RF interference.

40. (New) The guidewire of Claim 1, wherein the connector includes an MRI scanner interface circuit in communication with the inner and outer conductor.

41. (New) The guidewire of Claim 1, wherein the connector comprises a DC blocking circuit in communication with the inner and outer conductor configured to communicate with an MRI Scanner and block DC voltage from the outer conductor.

42. (New) The coaxial cable of Claim 25, wherein the non-magnetic body of the connector comprises a conductive material to shield against RF interference.

43. (New) The coaxial cable of Claim 25, wherein the connector includes an MRI scanner interface circuit in communication with the inner and outer conductor.

44. (New) The coaxial cable of Claim 25, wherein the connector comprises a DC blocking circuit in communication with the inner and outer conductor configured to communicate with an MRI Scanner and block DC voltage from the outer conductor.

45. (New) A connector for connecting a conductor associated with an intrabody lead, catheter or probe to an MRI scanner, the connector comprising a non-magnetic body with a conductive material defining an RF shield and a DC blocking circuit configured to block DC voltage transmission from the MRI scanner to a conductor in the intrabody lead, catheter or probe.